Mitochondria at the Heart of Longevity: A Personalised Supplement Approach

Who are

W-Wellness

The UK's first expert-led platform, created to support, educate, and empower both practitioners who support clients in the world of wellness and their consumers.

What do we **offer?**

CLARITY

We offer clarity in a noisy and overcrowded supplement market.

TOP QUALITY

Top quality wellness products under one roof

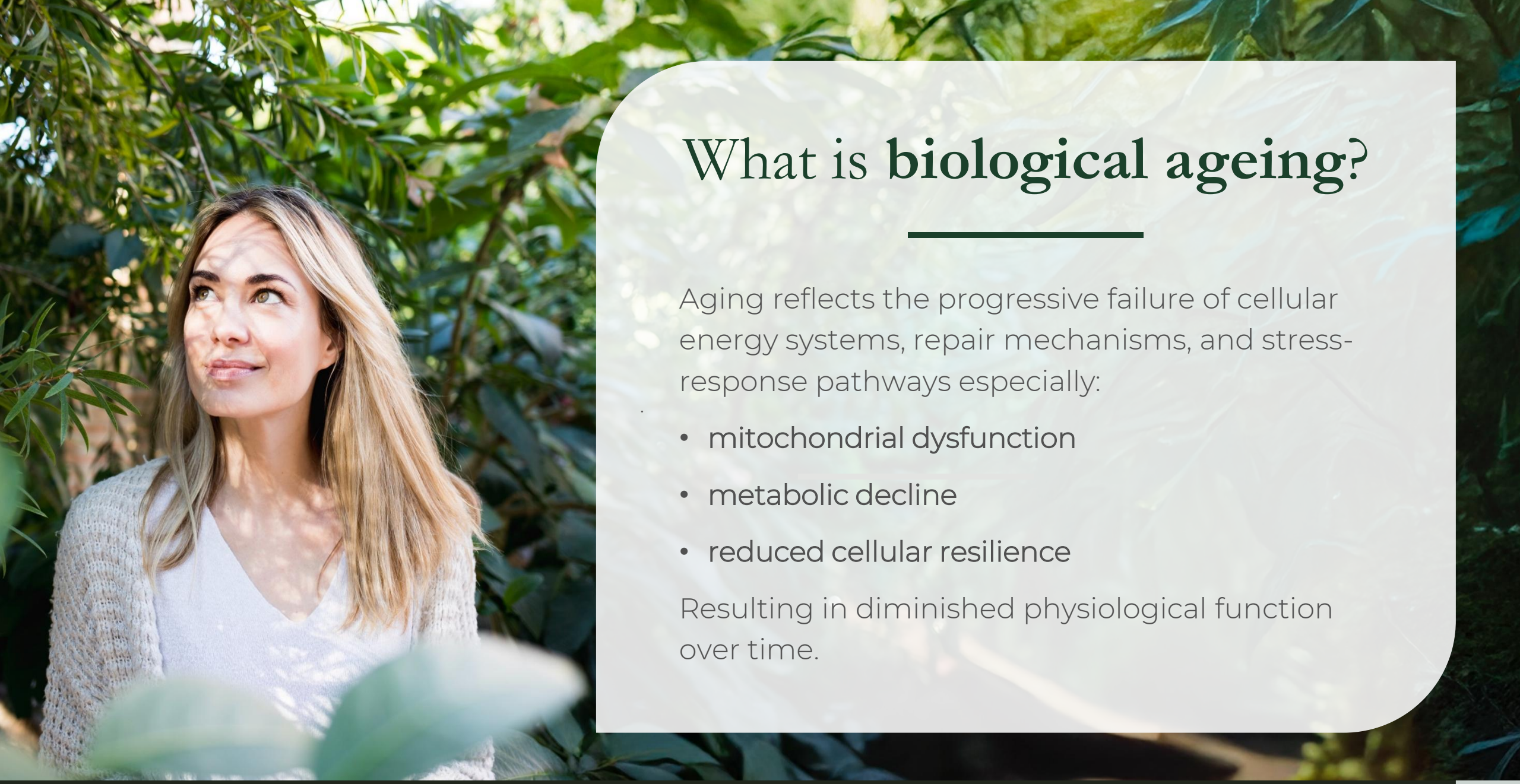
EDUCATION

We provide on-going education keeping you ahead of the game

Reassurance

The premium quality products which you will find on the W-Wellness platform have all been vetted by the experts

You can feel entirely confident that the supplements have been created in order to optimise absorption and will reach their desired location to exert their beneficial effects



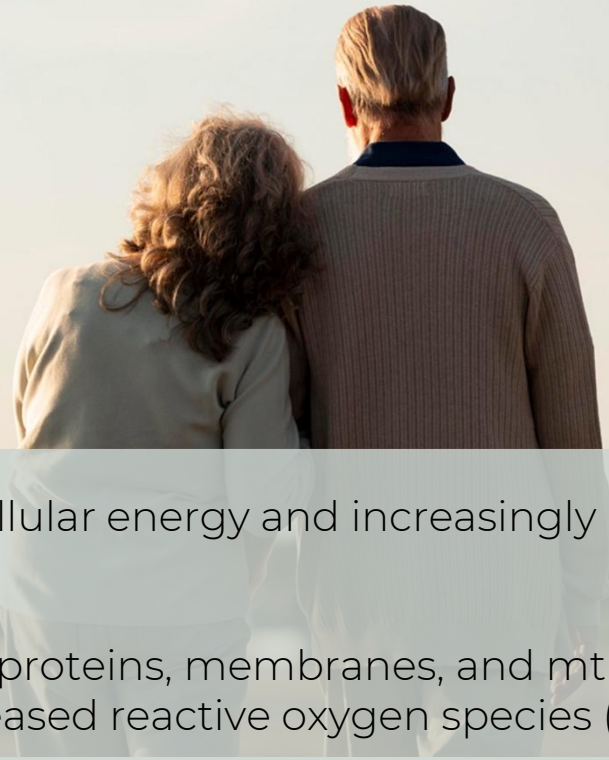
What is **biological ageing?**

Aging reflects the progressive failure of cellular energy systems, repair mechanisms, and stress-response pathways especially:

- mitochondrial dysfunction
- metabolic decline
- reduced cellular resilience

Resulting in diminished physiological function over time.

Mitochondrial Dysfunction-core process



- Mitochondria become progressively less efficient at generating cellular energy and increasingly contribute to internal cellular stress over time.
- ATP production declines in efficiency
- Molecular damage accumulates within mitochondrial structures (proteins, membranes, and mtDNA)
- Electron transport becomes less tightly regulated, leading to increased reactive oxygen species (ROS) formation
- Removal and renewal of damaged mitochondria becomes less effective

Result:
Cells function with reduced energy capacity and elevated internal stress, leading to diminished overall cellular performance.

Mitochondrial oxidative stress is implicated in a wide variety of pathologies from Alzheimer disease (AD) to TID.

The Rate of **Mitochondrial Dysfunction**

A normal, universal biological process. Mitochondrial efficiency declines gradually with age in almost all organisms. What varies is the rate at which it happens. Mitochondrial aging is driven not only by time, but by the cumulative impact of energy demand, metabolic stress, and reduced repair signalling.

1. Chronic energy overload
Sustained high energy demand from excess calories or frequent glucose spikes
Increases stress on the energy-producing machinery over time
2. Low physical activity
Reduces formation of new mitochondria and turnover of damaged ones
Lowers overall metabolic flexibility and adaptation capacity
3. Nutrient signalling imbalance
Reduced activation of key repair pathways linked to energy sensing (e.g., NAD^+-dependent systems)
Limits mitochondrial maintenance and recovery processes

4. Oxidative and inflammatory stress
Chronic low-grade inflammation increases ongoing mitochondrial damage
Reactive oxygen species exceed the cell's buffering capacity over time
5. Sleep and circadian disruption
Disrupts timing of cellular repair and recovery processes
Reduces overnight restoration of mitochondrial function

How does this information translate to supplements?

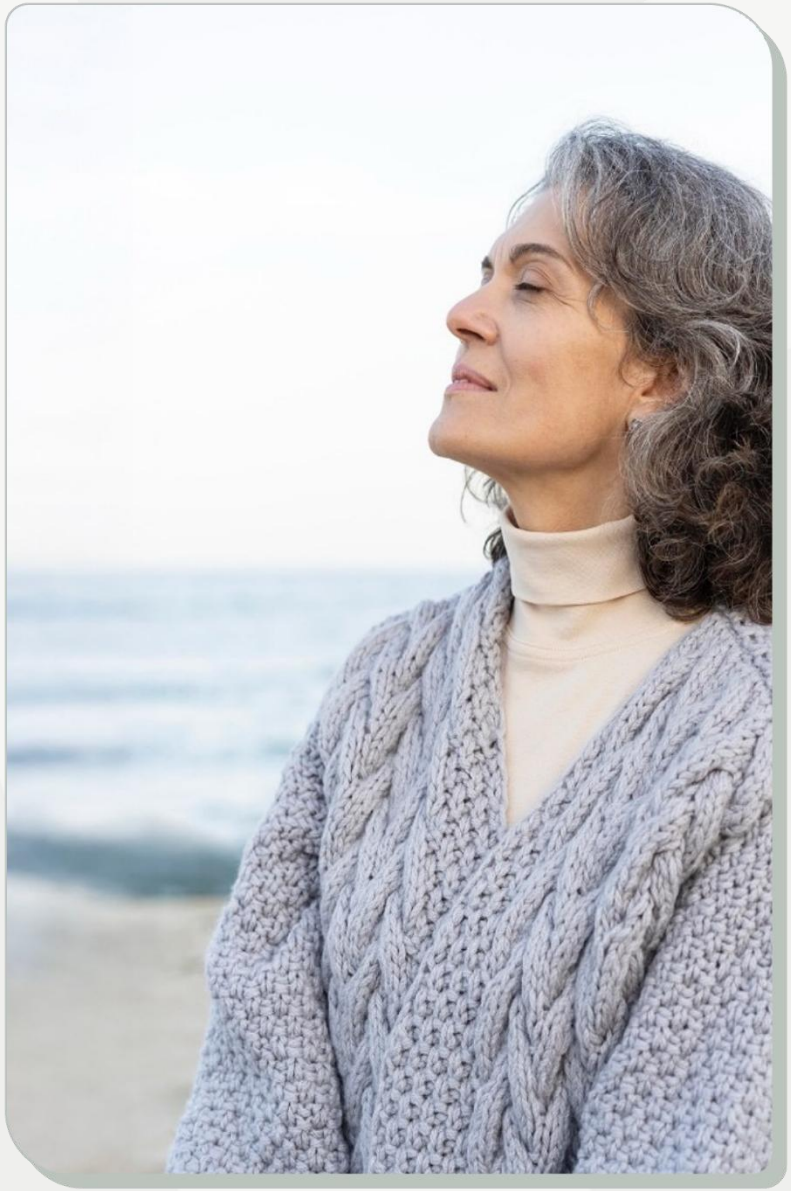
Once we have identified what is contributing to accelerated ageing we can select on a bespoke basis

1. **Chronic** energy overload

A sustained state where the body is repeatedly exposed to high energy demand due to excess calorie intake or frequent glucose spikes.

Biological Consequences:

- Cells are forced to continuously process and store excess fuel
- Mitochondria operate at persistently high output (“overdrive”)
- Energy pathways become overworked and less efficient over time



Youth & Earth Releaf

Contains berberine — a key component of metabolic regulation.

1-2 capsules.
Take at any time of the day, with food.

Berberine activates AMPK – activated protein kinase - an energy sensor that regulates cellular metabolism.

- Reduces chronic hyperinsulinaemic drive and associated metabolic overactivation
- Lowers sustained substrate flux pressure on mitochondrial oxidative metabolism

Highly absorbable chromium picolinate -> supports blood sugar

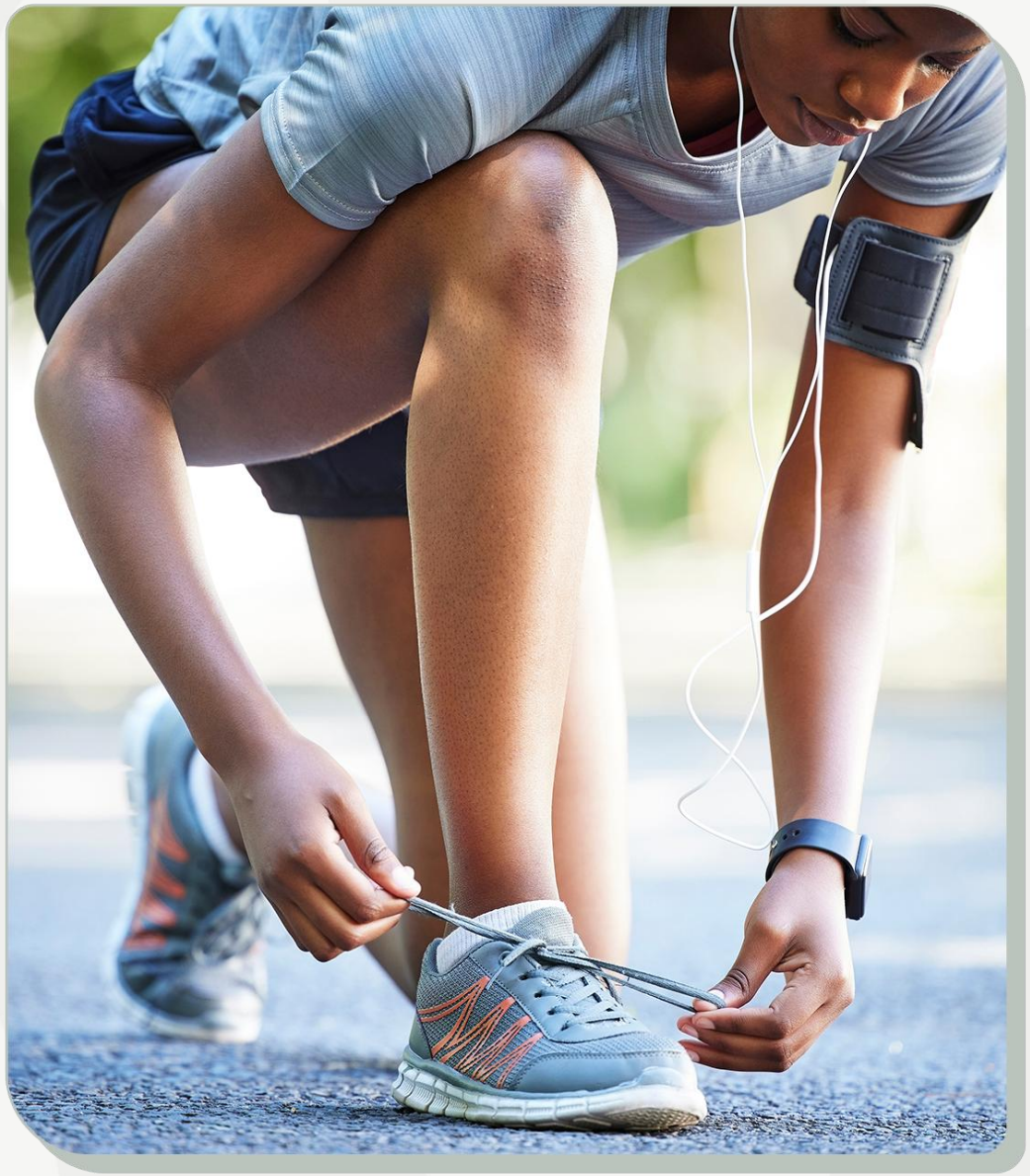
Silymarin -> protects liver & antioxidant defenses,

A powerful support for blood sugar balance and healthy ageing.

2. Low **physical activity**

Are our clients too exhausted to exercise and why?

Across large population studies, the primary reason for reduced physical activity with age is not motivation, but the increasing prevalence of pain, chronic disease, and functional limitations that reduce exercise capacity.



Natroceutics

Natroceutics Curcumin Fortified is a high strength, targeted option bringing together BCM-95® curcumin, a highly bioavailable and clinically studied extract, with AKBAMAX® boswellia and ginger extract.

Each capsule:

- 250 mg BCM-95® Curcumin
- 250 mg Boswellia
- 100 mg Ginger extract

3. **Nutrient** signalling imbalance

Reduced activation of cellular energy-sensing pathways involved in repair and mitochondrial regulation (e.g., AMPK and NAD^+-dependent systems)

Systems which normally:

- monitor cellular energy status
- regulate mitochondrial repair and renewal
- activate adaptive stress responses

An age-depleted nutrient - NAD

Nuchido Time+

Take 3 capsules with water once daily

Engineered to boost NAD+ levels. **Key ingredients:**

Nicotinamide (a form of niacin) – a raw materials that the body uses to make NAD+.
Referred to as an “NAD+ precursor”.

Dried flowers of Sophora Japonica tree include powerful flavonoids - quercetin, rutin and troxrutin selected based on their ability to activate the NAD+ salvage pathway enzyme NAMPT.

NAMPT is critical to NAD+ production but declines with age. Contains vitamin C and zinc protecting cells from oxidative stress.

Alpha Lipoic Acid – a natural compound that helps to boost NAD+ levels

Age-depleted nutrients

Nuchido Time+

NAD protective key ingredients:

Parsley is known to be one of the best natural sources of apigenin (a protective plant chemical). Apigenin is scientifically proven to inhibit a protein called CD38 which degrades NAD+

Green tea is included for its powerful compound epigallocatechin-3-gallate (EGCG).

EGCG inhibits a cellular enzyme called NNMT.
This enzyme increases with age, preventing NAD+ recycling in our cells.

4. **Oxidative** and **Inflammatory Stress**

Chronic low-grade inflammation increases ongoing mitochondrial damage. Reactive oxygen species exceed the cell's buffering capacity over time

Key drivers of chronic low-grade inflammation

- Senescent cell accumulation increases inflammatory signalling over lifespan
- Excess VAT promotes chronic metabolic inflammation
- Damaged mitochondria generate inflammatory stress signals and excess ROS
- Declining antioxidant capacity reduces the cell's ability to neutralise oxidative stress

An age-depleted Nutrient Glutathione

A solution to declining antioxidant capacity

- Glutathione is the body's primary intracellular antioxidant buffer
- Directly neutralises ROS & helps "reset" cellular redox balance
- With chronic stress and aging, endogenous glutathione levels decline → reduced buffering capacity
- Liposomal glutathione improves cellular delivery and replenishes depleted antioxidant defences more effectively

What drives excessive depletion?

- Chronic alcohol intake (heightened detoxification demand)
- Poor sleep and circadian disruption (reduced antioxidant regeneration overnight)
- Metabolic stress (high glucose, insulin resistance)
- Environmental toxins and pollution
- Chronic inflammation and infection burden

Liposomal Glutathione

METERON LABS
Liposomal Glutathione, Alpha Lipoic Acid & Selenium
Advanced high-absorption antioxidant formula using **liposomal delivery technology** for improved cellular uptake

Key Active Ingredients & Mitochondrial Role

L-Glutathione
→ Protects mitochondria from oxidative damage

Alpha Lipoic Acid
→ Supports mitochondrial energy metabolism and helps regenerate other antioxidants (including glutathione)

Selenium
→ Cofactor for antioxidant enzymes that reduce mitochondrial oxidative stress

Core Mechanism of Action

Helps reduce **mitochondrial oxidative load (ROS buffering)**
Supports **electron transport chain stability**
Enhances **cellular redox balance and energy efficiency**

An age-depleted Nutrient CoQ10

A solution to declining antioxidant capacity

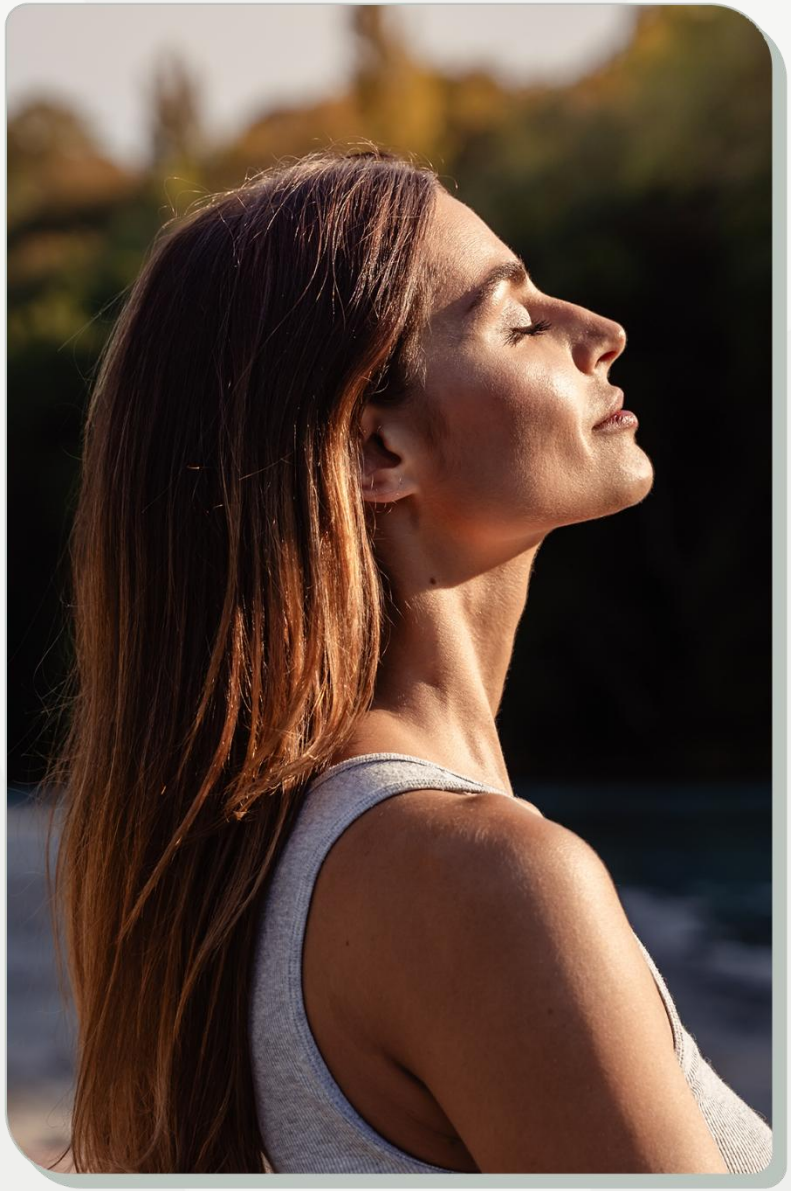
- Essential component of the **electron transport chain**
- Supports ATP production efficiency
- Functions as a lipid-phase antioxidant within mitochondrial membranes
- Helps reduce oxidative stress generated during oxidative phosphorylation

Research shows optimum CoQ10 production occurs around 25 years of age, with a subsequent age-related decline that may vary in different tissues.

Ensuring we are **addressing the cause:**

Drivers of accelerated CoQ10 loss:

- Metabolic overload
  - High blood sugar / insulin resistance increases mitochondrial ROS production
- Chronic inflammation
  - Persistent immune activation elevates ROS, driving CoQ10 oxidation -> contributing to mitochondrial dysfunction
- Lifestyle stressors
  - Smoking, air pollution → direct external free radicals + antioxidant depletion
- Poor recovery & sleep disruption
  - Reduced repair and antioxidant recycling capacity
- Excess physical or metabolic stress
  - Overtraining or chronic fatigue states increase oxidative burden
- Toxins & alcohol
  - Impair mitochondrial enzymes and increase ROS generation

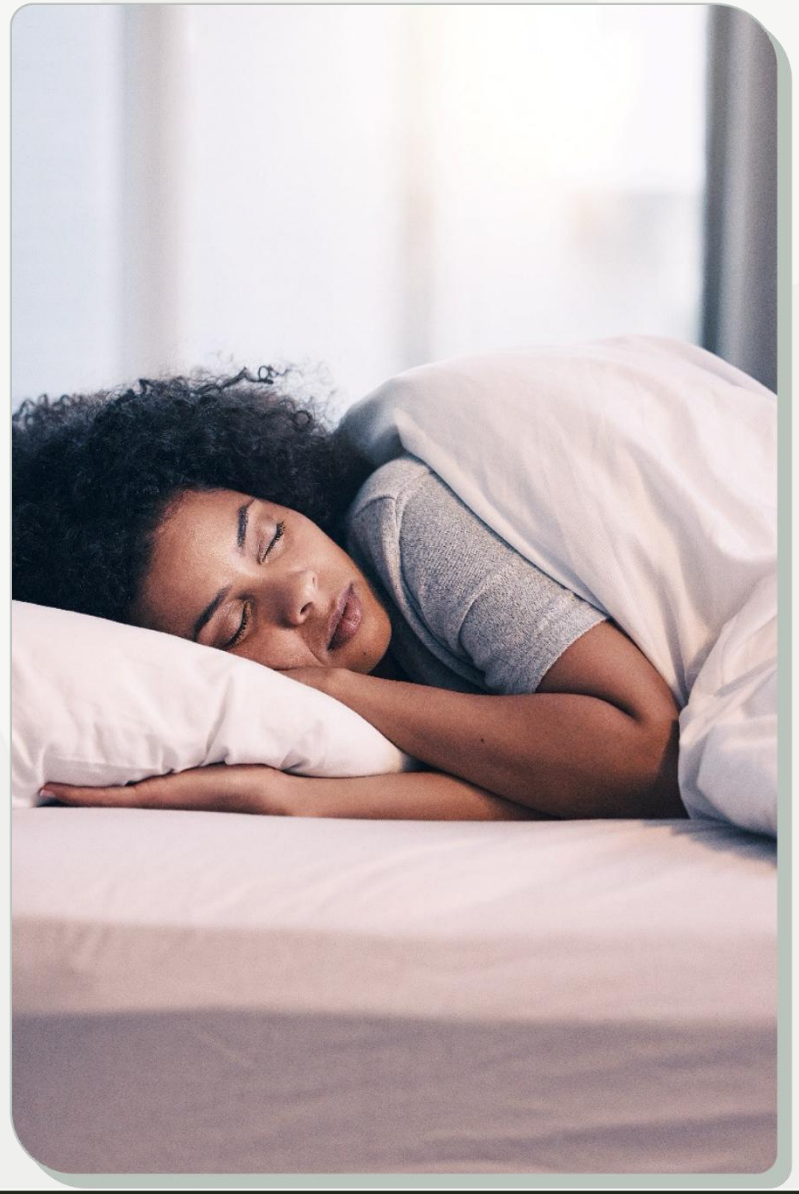


5. **Sleep** and **Circadian Disruption**

Disrupts timing of cellular repair and recovery processes
Reduces overnight restoration of mitochondrial function

Major Causes of Sleep Disruption

- Irregular sleep schedule
  - Inconsistent bed/wake times → misaligned body clock
- Light exposure at night
  - Screens (blue light), bright indoor lighting → suppress melatonin
- Stress and hyperarousal
  - Anxiety, overthinking, chronic stress → difficulty “switching off”
- Caffeine and stimulants
  - Late-day coffee/energy drinks → delayed sleep onset/ lighter sleep
- Alcohol
  - Fragments sleep cycles and reduces deep sleep
- Shift work / jet lag
  - External circadian misalignment (work schedule or travel)
- Late heavy meals
  - Digestive activity at night → reduced sleep depth and quality



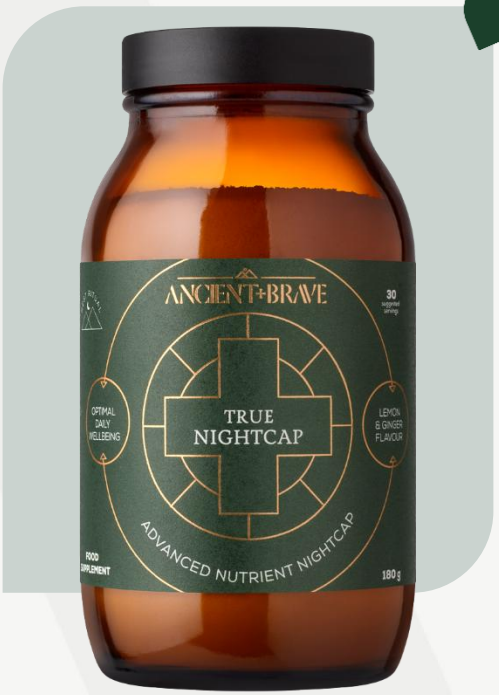
4 Supplements to support **sleep and stress**

Healthy Ageing

NATROCEUTICS
Saffron Bioactive

Featuring Affron®, sourced from sustainably grown Spanish saffron.

"Affron® is a standardised, clinically researched saffron extract, rich in crocins and safranal, compounds known to support serotonin signaling, mood balance, and sleep quality



Ancient and Brave
True Night Cap

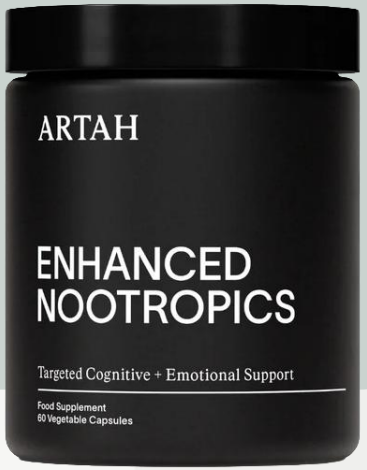
To calm a racing mind includes
- Mg -reducing excessive excitatory neurotransmission via NMDA receptor regulation
- L-glycine enhancing inhibitory neurotransmission and sleep-related thermoregulation
- Myo-inositol and choline support neuronal membrane integrity and synaptic signalling.

Inessa **Magnesium**

(Magnesium Bisglycinate, Magnesium Threonate, Natural Marine Magnesium from Purified Sea Water)
This highly bioavailable magnesium supports sleep and nervous system calm by enhancing inhibitory signaling and reducing neural excitability, while also promoting muscle function and reducing fatigue

Artah **Enhanced Nootropics**

Combines Ashwagandha to modulate HPA axis activity and reduce cortisol, Griffonia (5-HTP) to support serotonergic neurotransmission, Mg for inhibitory neuronal signalling, and B-vits to support mitochondrial energy production and catecholamine synthesis, collectively promoting cognitive resilience, balanced mood, and neural efficiency



Any Questions?

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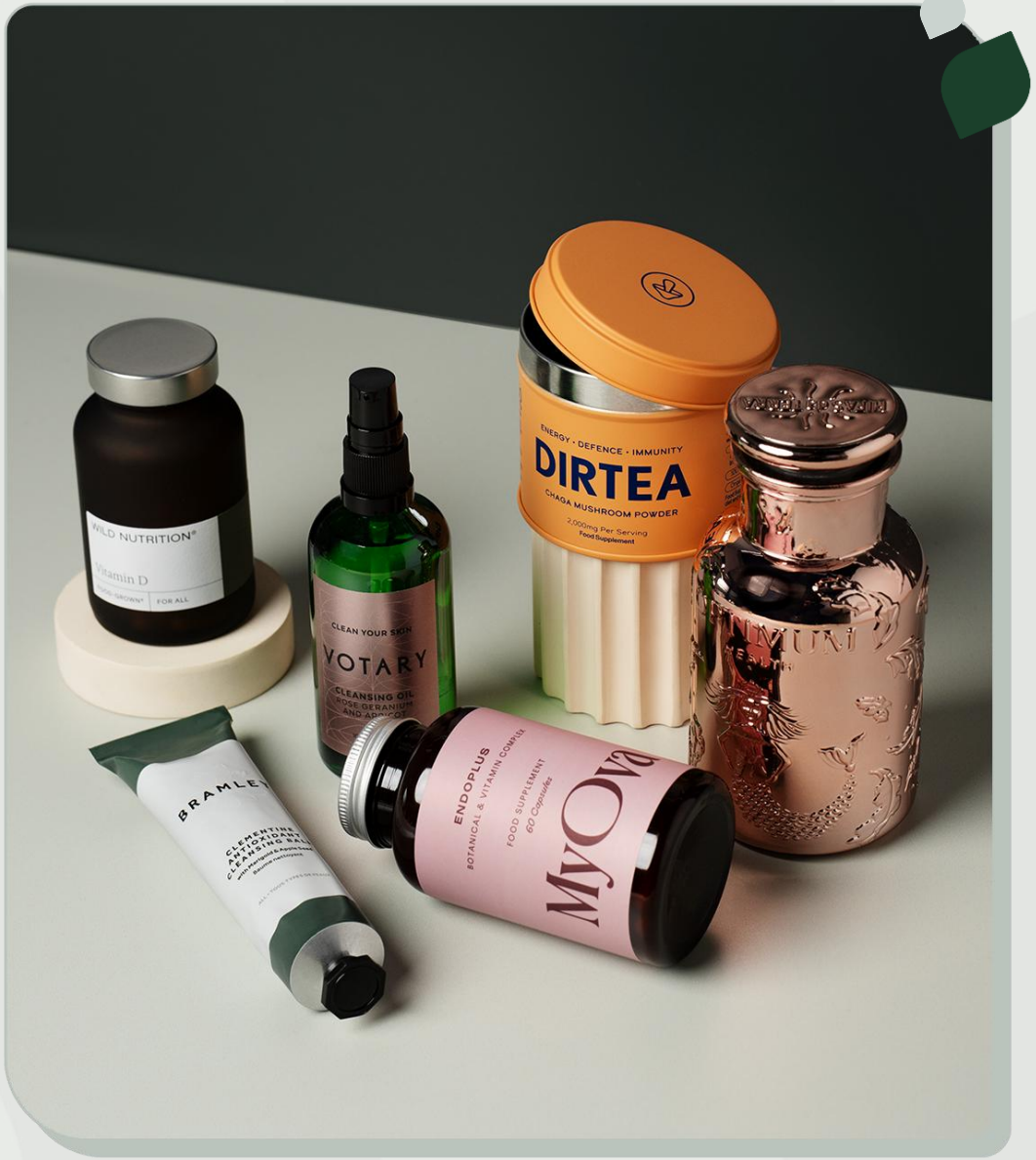

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